

APPENDIX C

BUDGET REQUEST

For

“A QUAGGA MUSSEL EDUCATION AND IMPLEMENTAION PLAN”

Utah Department of Natural Resources

Utah Division of Wildlife Resources

Preparer: Walt Donaldson, Aquatic Chief

October 3, 2007

- A. **Proposal:** To educate the public about aquatic nuisance species, particularly Quagga and Zebra mussel impacts, and prevent their invasion into Utah’s waters.
- B. **Work Schedule:** Fiscal Year 2008 & 2009
- C. **Authority:** 1) UCA Title 23, Wildlife Code; 2) Rule 657-3, Collection, Importation and Possession of zoological Animals; and 3) DNR Policy #NR-07-D-11, “Prevent Invasion of Zebra Mussel into Utah Waters”
- D. **Need:** Quagga and Zebra mussels are exotic, invasive species from east central Russia that annually have caused millions of dollars of impacts to water resource based industries and water recreation in the eastern United States over the last two decades. Quagga mussels were discovered in Lake Mead on the lower Colorado River in January 2007. Then, in August 2008 veligers (microscopic larval form of Quagga and Zebra mussels), presumably of Quagga mussels due to the proximity of Lake Mead, were identified in Lake Powell.

The purpose of this proposal is to fund a program to educate the public about aquatic nuisance species, particularly Quagga and Zebra mussel impacts, and prevent their invasion into other Utah waters. Within Utah there are 21 boating lakes and reservoirs that have state park facilities, and there are 46 boating lakes and reservoirs without a state park. The state of Minnesota, “land of 10,000 lakes,” has been very successful in limiting expansion of invasive mussel species in their waters through aggressive education and prevention efforts. This proposal is patterned after Minnesota’s plan.

E. **Tasks:**

1. Administration and Monitoring (Aquatic Section)

- Administer and coordinate interagency education and prevention efforts statewide, particularly with both state and local water conservation agencies.

- Develop and implement a strategic plan and associated action plans regarding aquatic nuisance species in cooperation with participating agencies (e.g. water conservation districts, local governments, federal and state land and natural resource management agencies, NGO organizations and other private partners) to prevent or slow the spread of invasive species infestation within Utah.
- Take the lead on work planning, evaluation, budget development, monitoring and reporting.
- Conduct risk assessments of key state waters and prioritize them based on their potential for invasion or containment of an invasion.
- Recruit, train and supervise 5 Wildlife Biologist I (AL) and 22 seasonal (AJ) Wildlife Technicians on how to:
 - a) Educate the public about aquatic nuisance species and mussel impacts;
 - b) Conduct approved inspections for Quagga and Zebra mussels on or contained within watercraft;
 - c) Conduct approved inspections for Quagga and Zebra mussels on watercraft hauling vehicles and trailers;
 - d) Conduct approved inspections for Quagga and Zebra mussels on water-related recreational equipment; and
 - e) Conduct biological sampling for Quagga and Zebra mussels.
- Implement watercraft inspections for Quagga and Zebra mussels at Utah's high-risk lakes and reservoirs to insure compliance, and compel watercraft users or haulers to decontaminate boats, trailers, and water-related recreational equipment as needed, particularly those originating from waters with high invasive potential for Quagga and Zebra mussels.
- Distribute educational or outreach materials on invasive species as needed.
- In cooperation with land management agencies, install and maintain Quagga and Zebra mussel and/or aquatic nuisance species signs on all major lakes and reservoirs in Utah.
- Conduct biological sampling for Quagga and Zebra mussels in high-risk lakes and reservoirs throughout the state.
- Develop and maintain a database to track results from biological sampling of Quagga and Zebra mussels.
- Review technology and research updates on invasive mussel control and prevention.

2. Interdiction (Law Enforcement Section)

- Recruit, train and supervise 5 Conservation Officers on how to:
 - a) Educate the public about aquatic nuisance species and mussel impacts;
 - b) Conduct approved inspections for Quagga and Zebra mussels on or contained within watercraft;
 - c) Conduct approved inspections for Quagga and Zebra mussels on watercraft hauling vehicles and trailers;
 - d) Conduct approved inspections for Quagga and Zebra mussels on water-related recreational equipment; and

- e) Conduct biological sampling for Quagga and Zebra mussels; and
- f) Insure compliance with Utah's laws and rules.
- Implement watercraft inspections for Quagga and Zebra mussels at Utah's high-risk lakes and reservoirs to insure compliance, and compel watercraft users or haulers to decontaminate boats, trailers, and water-related recreational equipment as needed, particularly those originating from waters with high invasive potential for Quagga and Zebra mussels.
- Distribute educational or outreach materials on invasive species as needed.
- In cooperation with land management agencies, install and maintain Quagga and Zebra mussel and/or aquatic nuisance species signs on all major lakes and reservoirs in Utah.
- Conduct biological sampling for Quagga and Zebra mussels in high-risk lakes and reservoirs throughout the state.
- Implement boat and watercraft inspections for mussels at Utah's high-risk lakes and reservoirs, insure compliance, and collect biological samples from selected waters.
- Compel watercraft users or haulers to decontaminate boats, trailers, and water-related recreational equipment as needed.

Public Education and Information (Conservation Outreach Section)

- Recruit, train and supervise 1 Conservation Outreach Coordinator on how to educate DNR personnel, participating agencies and the public about aquatic nuisance species, particularly Quagga and Zebra mussel impacts, and prevention methods.
- Develop and implement a conservation outreach plan for aquatic nuisance species, particularly Quagga and Zebra mussels.
- Design and update printed education materials on aquatic nuisance species, particularly invasive mussels, in consultation with the Aquatic Nuisance Species Coordinator.
- Maintain and update the DWR website on aquatic nuisance species, particularly invasive mussels, and prevention efforts in consultation with the Aquatic Nuisance Species Coordinator.
- Conduct media coordination and advertisement to insure public awareness of the threat from aquatic nuisance species, particularly invasive mussels, and prevention methods.
- Develop and implement education plans to inform and train the boating industry about the threat from aquatic nuisance species, particularly invasive mussels, and prevention methods.

4. Cooperative Containment Efforts (Aquatic Section)

- Develop and implement action plans as needed for containment of aquatic nuisance species in cooperation with participating agencies (e.g. water conservation districts, local governments, federal and state land and natural resource management agencies, NGO organizations and other

private partners) to prevent the spread of invasive species from infested waters, particularly Quagga and Zebra mussels as follows:

- a) Specifically and immediately focus upon Lake Powell.
 - b) Appropriately monitor for aquatic nuisance species infestations (e.g. collect zooplankton in reservoirs near high boat density sites—marinas, implement Portland substrate samplers, make visual inspections of underwater habitats using scuba equipment, and inspect intake and outlet or other plumbing structures). Then, submit samples as needed to qualified experts or labs as verification for presence or non-presence of aquatic nuisance species. **Note:** Regarding Lake Powell, analysis from the US Bureau of Reclamation lab in Denver, CO indicates extreme low densities of the Quagga mussel juveniles.
 - c) Focus upon other state waters as needed;
 - d) Cooperatively develop appropriate containment messages.
- Direct and coordinate efforts involving the use of conservation officers, biologists, wildlife technicians and participating agency personnel in contacting as many boaters and anglers as possible about aquatic nuisance species, particularly Quagga and Zebra mussels, to insure that watercraft enter and leave Utah's waters as "uncontaminated" (clean).

ESTIMATED BUDGET COSTS

FY 2008: \$1,106,500

Supplemental Appropriation

* See Excell File: FY08 Budget & Personnel Distribution for Sheehan.xls

FY 2009: \$1,640,000

Building Block Appropriation

* See Excell File: FY09 Budget & Personnel Distribution for Sheehan.xls

UTAH FISHING LAKES AND RESERVOIRS USED BY BOATERS

June 2008

Risk Ranking: 1 = highest; 2 = high; 3 = moderate; 4 = low; 5 = little to no risk

UDWR-NRO (Rank 1-5 & Recommendation
Provided by Schaugaard 6-27-07)

1-Bear Lake SP, 2 inspectors & 1 boat decontamination unit

3-Cutler Reservoir

3-Newton Reservoir

4-Whitney Reservoir

4-Stateline Reservoir

5-Birch Creek Reservoir (no ramp)

4-Woodruff Reservoir

1-Pineview, 2 inspectors & 1 boat decontamination unit

5-Causey Reservoir (no ramp)

2-East Canyon SP, \

2-Rockport SP } 1 Inspector & 1 boat decontamination unit

2-Echo Reservoir /

4-Smith & Morehouse

4-Stateline Reservoir

4-Lost Creek Reservoir

1-Willard Bay SP, 2 inspectors & 1 boat decontamination unit

2-Hyrum SP,

2-Mantua Reservoir

4-Porcupine Reservoir

1-I-80 port (?)

UDWR-NEO (Rank 1-5 & Recommendation
Provided by Schneidervin 7-03-07)

1-Flaming Gorge, 4 inspectors & 2 boat decontamination units

3-Calder Reservoir

3-Crouse Reservoir

3-Matt Warner Reservoir

3-Red Fleet SP and Steinaker SP, 1 inspector & 1 boat decontamination unit

4-Bough Reservoir

- 4-East Park Reservoir
- 4-Bullock Reservoir
- 4-Cottonwood Reservoir (low boat use)
- 1-Pelican Lake (due to tournaments), 1 inspector & 1 boat decontamination unit
- 3-Starvation SP, 1 inspector & 1 boat decontamination unit
 - 4-Currant Creek Reservoir
 - 4-Moon Lake
 - 4-Big Sandwash Reservoir
 - 5-Upper Stillwater Reservoir (no ramp)

UDWR-CRO (Rank 1-5 & Recommendation Provided by Wiley 6-28-07)

- 1-Strawberry Reservoir, 2 inspectors & 1 boat decontamination unit
- 1-Jordanelle SP, 2 inspectors & 1 boat decontamination unit (1% non-resident use from WY & NB, but Lk Mead destination)
- 2-Deer Creek SP, 1 inspector & 1 boat decontamination unit (low non-resident use)
- 2-Yuba SP, 1 inspector & 1 boat decontamination unit (8% non-resident use)
 - 5-Gunnison Reservoir (no ramp & 3 miles dirt road for access)
- 4-Utah Lake SP, 2 inspectors & 1 boat decontamination unit
 - 5-Mona Reservoir (poor sport fishery)

UDWR-SERO (Rank 1-5 & Recommendation Provided by Birdsey 7-03-07)

- 1-Huntington North SP, 1 inspector & 1 boat decontamination unit
 - 3-Electric Lake
 - 3-Mammoth Reservoir
- 2-Millsite SP, 1 inspector & 1 boat decontamination unit
 - 2-Joes Valley Reservoir
- 1-Scofield SP, 1 inspector & 1 boat decontamination unit

Lake Powell

- 1-Bullfrog, 2 inspectors (NPS has 1 boat decontamination unit)
- 1-Hall's Crossing, 1 inspector (NPS has 1 boat decontamination unit)
- NOTE:** Vehicle may be needed for technician who works Hall's Crossing, since the Technician would be housed at Bullfrog
- 5-Hite- cannot launch boats there in 2007, unknown 2008

Medium Risk Waters

3-Recapture Reservoir

Low Risk Waters:

4-Blanding #4

4-Kens's Lake

1-I-70 port (?)

UDWR-SRO (Rank 1-5 & Recommendation
Provided by Ottenbacher 6-27-07)

1-Gunlock, Quail Creek and Sand Hollow SP, 3 inspectors & 2 boat decontamination units (Mar-Nov)

3-Upper and Lower Enterprise

3-Newcastle Reservoir

5-Fish Lake, 1 inspector & 1 boat decontamination unit (May-Aug)

2-Koosharem Reservoir

3-Otter Creek SP and Piute SP, 2 inspectors & 1 boat decontamination unit (April-Labor Day)

2-Minersville Reservoir, 1 inspector & 1 boat decontamination unit (April-Labor Day)

NOTE: County operated

1-Panguitch Lake, 1 inspector & 1 boat decontamination unit (May-Labor Day)

4-Navaho Lake

4-Kolob Reservoir

1-Lake Powell

Wahweap & Antelope Point/Stateline, 2 inspectors & NPS has 2 boat decontamination units (Mar-Nov)

1-I-15 Port of Entry, 2 inspectors & 2 boat decontamination units? (Mar-Nov)

1-West Lake Mead Access Pts, 1 contactor (Mar-Nov)